

Radiographic Factors

As the factors on the left increase, what is the effect of the factors on the right?

Below the table is some reasoning behind some of them. If you have any questions please ask.

	Patient Dose	Magnification	Image Detail	Density	Contrast
System Speed	-	0	-	+	0
Grid Ratio	+	0	+	-	+
Processing (film)	0	0	-	+	-
Patient size	+	+	-	-	0
Field size	+	0	-	+	-
Use of Contrast	0	0	+	0	+
Focal spot size	0	0	-	0	0
SID	-	-	+	-	0
OID	+	+	-	-	+
SOD	-	-	+	-	0
Screen/Film contact	0	0	-	0	0
mA	+	0	0	+	0
Time	+	0	0	+	0
kVp	+	0	-	+	-
Filtration	-	0	0	-	-

Processing - As process increases, the chance of "fog" on the image increases. This causes the the image to be darker and "hazy".

SID and SOD - When you increase the distance, dose is decreased because the source is further away. Magnification is decrease as the source gets further away. The edges of objects gets sharper as you increase the distance so detail is increased.

OID - When you increase the object to image distance, you are bringing the object closer to the x-ray tube, so dose is increased. Magnification occurs because you are further away from the image receptor. Detail is decreased because of the magnification. Density is decreased because you now have an air gap between the part and the IR, which allows some of the scatter to exit the patient and miss the IR. Same reason for the contrast increase.

Filtration - Filtration absorbs lower energy x-rays. These would be absorbed by the patient, so eliminating them decreases dose. Along with the low energy x-rays, some of the upper energy x-rays will also be absorbed, so density is affected. Contrast is decreased because filtration is essentially increasing the quality of the x-ray beam. By absorbing lower energies, you increase the quality of the beam. Increasing quality results in a grayer image (decreased contrast).